



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

### REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

### LEES LANE LANDFILL SITE LOUISVILLE, KENTUCKY

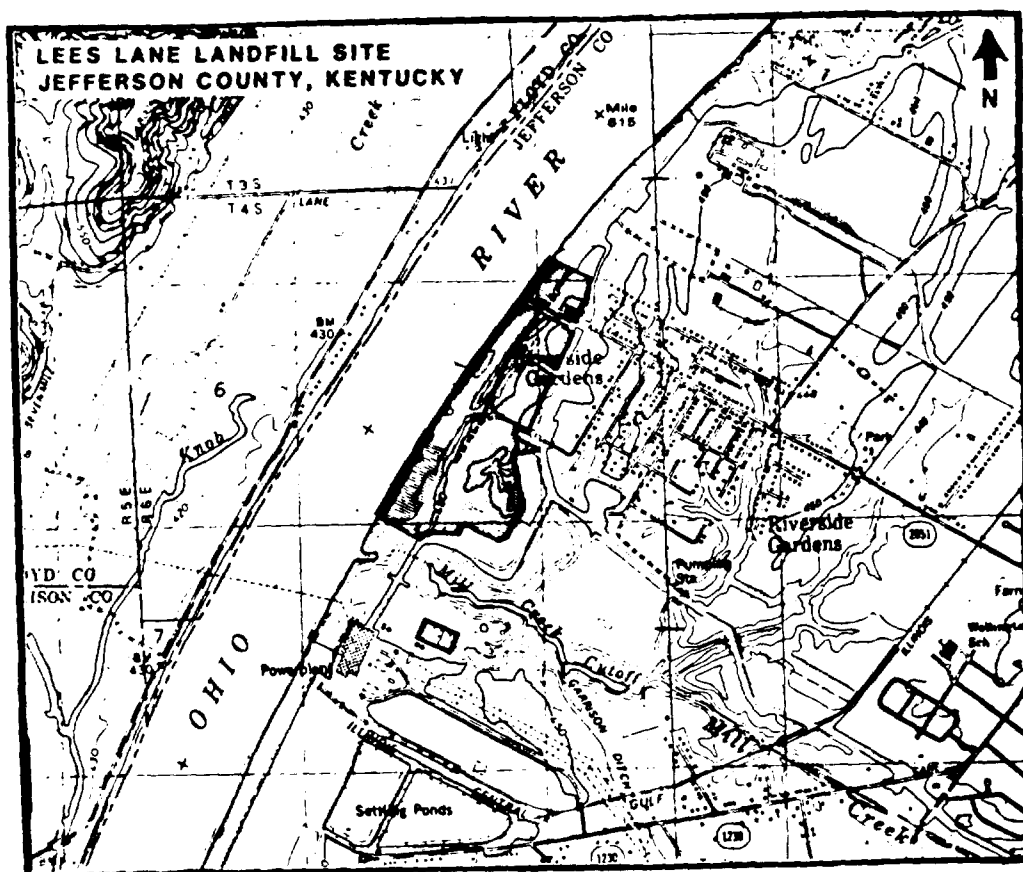
#### REMEDIAL DESIGN FACT SHEET

May 1987

#### INTRODUCTION

The U.S. Environmental Protection Agency completed the Remedial Investigation/Feasibility Study in September 1985. Based on the results of the study, EPA selected a remedy that provides adequate protection of public health, welfare and the environment. The Agency negotiated with the Potentially Responsible Parties to perform the clean-up action at the site. Negotiations concluded in January 1987 with EPA conducting the clean-up.

The next steps in the Superfund Process are Remedial Design/Remedial Action (RD/RA). The Remedial Design is an activity in remedial response where the selected remedy is clearly defined and/or specified in accordance with engineering criteria (i.e. engineering drawings and specifications) in a bid package enabling implementation of remedy. The Remedial Action is an activity in remedial response involving actual implementation, following design, of the selected remedy. This fact sheet describes the RD/RA process as it relates to the Lees Lane Landfill site.



## SITE BACKGROUND

The Lees Lane Landfill site is located immediately adjacent to the Ohio River in Jefferson County, approximately 4.5 miles southwest of Louisville, Kentucky. The site consisting of 112 acres, is approximately 5,000 feet in length and 1,500 feet in width. Most of the landfill site is level to gently sloping land with one depression, with steep slopes, located on the southern end of the site. Much of the landfill surface is covered with well-established vegetation ranging from brush to woodlands.

The site is bordered on the east and south by a flood protection levee. To the northeast is Borden Inc., a chemical manufacturer, and to the south is the Louisville Gas and Electric Cane Run Plant (a coal burning generating station). Other industrial development occupies some of the Kentucky side of the Ohio River from Louisville south to the Lees Lane Landfill area. Across the levee to the east of the site is Riverside Gardens, a residential development of about 330 homes and 1,100 people. Beyond these areas, land is vacant or devoted primarily to woodlands and agricultural use. The site is occasionally used for recreational purposes such as target practice, hunting, or related activities.

## SITE HISTORY

Domestic, commercial, and industrial wastes were disposed of in the landfill from the late 1940's to 1975. Prior to and during its use as a landfill, sand and gravel were quarried at the site by the Hofgesang Company. In 1971, the State issued a permit under its Solid Waste Program for the southern portion of the landfill. In 1974, the Lees Lane Landfill permit expired, and due to repeated compliance violations, was not renewed.

In March 1975, the Jefferson County Department of Public Health was notified of the presence of methane gas in Riverside Gardens. As a result of exposure levels of methane gas, seven families along Putman Street were evacuated by the Jefferson County Housing Authority. The homes were purchased and the families were relocated. In April 1975, the Kentucky Natural Resources and Environmental Protection Cabinet (NREPC) filed a lawsuit that resulted in landfill closure.

Between 1975 and 1979, 44 gas observation wells were installed in and around the landfill and in Riverside Gardens to monitor the concentration, pressure and lateral extent of methane migration. Samples collected from these wells indicated that the source of the methane and associated toxic gases was the decomposition of landfill wastes. In October 1980, a gas collection system was installed between the fill and Riverside Gardens.

In November 1978, samples were collected from residential wells in Riverside Gardens to determine the potential effects of the landfill on groundwater quality. The study reported that there was no indication of the migration of contaminated groundwater from the landfill to the residential wells.

In February 1980, the Kentucky Department of Hazardous Materials and Waste Management (HMWM) discovered approximately 400 drums about 100 feet from the Ohio River bank on a 10-foot vertical rise above the river. In September and October 1981, the drums were removed by the owners under Court Order.

In early 1981, the Kentucky NREPC installed eleven shallow groundwater monitor wells at the site; and in April samples were collected from five of these wells.

An EPA evaluation of the landfill in December 1982 resulted in the placement of the site on the National Priorities List.

The RI/FS was completed in September 1985. A public meeting to present a summary of the RI/FS process and to explain the proposed remedies for the clean-up of the landfill was held on October 15, 1986.

This public meeting initiated a three week public comment period in which the public was encouraged to review the proposed remedies presented in the Feasibility Study. The public response was very good during this period.

Numerous air quality concerns received during this period prompted EPA to initiate an extended air sampling study to assess the extent of inhalation exposure from gaseous contaminants emitted from the Lees Lane Landfill site to local residents and to review the resulting data for its measure of public health significance. The results of the study concluded that the levels measured do not constitute a health hazard to the public residing adjacent to the landfill, in terms of noncarcinogenic effects. However, it was recommended that a air and gas monitoring program be implemented and that the gas collection system be maintained to ensure that it operates properly.

In September 1986 EPA prepared an Enforcement Decision Document (EDD) taking into consideration comments from the public and the results of the RI/FS. The EDD recommended the remedial action to include:

- Provision for a properly operating gas collection system
- Consideration of a possible future alternate water supply
- Cleanup of surface waste area
- Bank protection controls
- Establishment of an ACL for the groundwater at the site
- Institutional controls, which will be fully identified during remedial design, will be implemented. These controls may include, but will not be limited to:
  - cautionary signs,
  - installation of a gate at the Putnam Street access point.
- Operation and Maintenance (O&M) activities which will include:
  - groundwater, gas, and air monitoring,
  - inspection of the gas monitoring wells, gas collection system, capped waste areas, and the riprap along the Ohio River bank.

## REMEDIAL DESIGN ACTIVITIES

The EPA Regional Office initiated the Remedial Design at the site in March 1986. The Superfund Amendments and Reauthorization Act of 1986 (SARA), passed by Congress on October 17, 1986, allows for an expanded removal authority to facilitate the implementation of remedial actions. Under this authority, in March 1987 EPA's removal staff covered hot spots identified in the EDD, buried drums, posted signs and installed two fences. Additional tasks to be conducted under this authority include posting additional cautionary signs, placing riprap (stones) along the central portion of the bank adjacent to the Ohio River to aid in the prevention of erosion and clean-up of surface waste.

The Remedial Design for the following activities should be completed in September 1987:

### ~~EVALUATION OF AN:~~

*Evaluation of an*

- \*<sup>^</sup> Alternate Water Supply
- \* Multi-media (air, groundwater and gas) monitoring program
- \* Any repairs to the Gas Collection System
- \* Riverbank Protection (area not reveted under the Expanded Removal Authority)

#### PUBLIC INPUT

Questions and requests for additional information should be directed to the following:

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#### LOCATION OF RESPOSITORIES

Ms. Pat Moran  
Riverside Gardens Community Council  
4416 Wilmoth  
Louisville, Kentucky 40216  
(502) 447-6199

Riverside Baptist Church  
4317 Lees Lane  
Louisville, Kentucky 40216  
(502) 449-1891